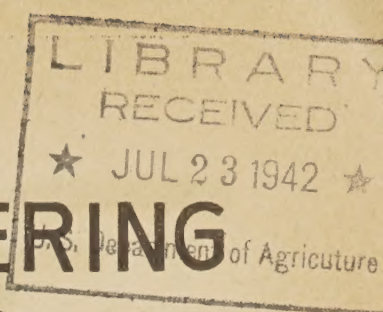


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CURRENT LITERATURE IN AGRICULTURAL ENGINEERING



BUREAU OF AGRICULTURAL CHEMISTRY AND ENGINEERING
UNITED STATES DEPARTMENT OF AGRICULTURE

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Vol. 11, No. 6

January, 1942

Accidents.

Embattled farmers. By T. Roy Reid. National Safety News.
v.45, no.4. April 1942. p.17-18, 72-73.
Accidents must not be permitted to take their annual toll
of farmer's production and resources and to decimate his
numbers. Despite added danger of war time farming, these
huge annual losses need to be reduced as rapidly as possible.
Not only is this necessary for war production but it is
essential for happiness and high morale of all our people.

Farm safety program. In year book of the Department of
agriculture, commerce and industries of the state of South
Carolina, 1939-1940. Columbia, S.C., 1940.
p.324-325.

Agricultural engineering.

Farm engineering and management. Chicago, 1940. 40p.
LaSalle Extension university. Assignment 1.

Recent progress in agricultural engineering. By L. F. Living-
ston. Journal of the American society of farm managers
and rural appraisers. v.5, no.2. October 1941.
p.134-142.

Agriculture.

Agricultural production in New York, 1866 to 1940. By T. E.
LaMont. Ithaca, New York, 1941. 36p. Cornell
university. Agricultural experiment station. Bulletin no.769.

Farm management aspects of the war. By J. C. Doneth & K. T.
Wright. East Lansing, Mich., 1942. 39p.
Michigan. Agricultural experiment station. Circular
bulletin no.182.

Fifty-first annual report for the fiscal year ended June 30, 1941;
Washington agricultural experiment station. Pullman, Wash.,
1941. 142p.

Fifty-fourth annual report of the South Carolina experiment
station of Clemson agricultural college. Clemson, S.C.,
1941. 182p.

Agriculture. (Cont'd.)

Michigan agricultural outlook for 1942. East Lansing,
Mic., 1942. 24p. Agricultural economic news for
Michigan no.27.

Year book of the Department of agriculture, commerce and industries
of the state of South Carolina, 1939-1940. Columbia,
S.C., 1940. 355p.

Air conditioning.

Cooling a five-room house. By Carl F. Boester. Heating
and ventilating. v.39, no.4. April 1942.
p.19-21. Variation of evaporative cooling method re-
quiring only one-third horsepower in motor capacity.

Air raid protection.

Durable, lusterless materials required to hide nation's lights at
night. National painters magazine. v.9, no.1.
January 1942. p.6-8, 27-28.

Protection against aerial bombing. Recommendations of Committee
on Civilian Protection in War Time. Civil engineering.
v.12, no.2. February 1942. p.116-118.
Illustrations.

Role of color in art of concealment. By Walter Rendell Storey.
National painters magazine. v.9., no.1. January,
1942. p.9-10.

Animals, Effect of rays on

Radiation in agriculture. By J. P. Ditchman. Agricultural
engineering. v.22, no.11. November 1941.
p.389-390.

Use of ultraviolet light on the laying flock. By J. A.
Davidson and D. E. Wiant. In Michigan agricultural
experiment station quarterly bulletin. v.24, no.3.
February 1942. p.248-252.

Brooders, Electric

Electric chick brooder operation. By D. E. Wiant and J. A.
Davidson. East Lansing, Mich., 1942. 8p.
Michigan state college. Extension division. Extension
bulletin no.237.

Building construction.

Bomb tests of materials and structures. Engineering news-record, v.128, no.5. January 29, 1942.
p.185-187. Data has been made available by the War department as to the resistance of various types of construction under actual bombing. This information, which is considered of special value in providing civilian air-raid protection, is based upon extensive tests with several different types of bombs of various sizes.

Economy of timber building. London, His Majesty's stationery office, 1942. 16p. Department of scientific and industrial research. Building research. Wartime building bulletin no.19. Illustrations. This bulletin discusses ways in which further economy can be achieved in the use of timber in building. Recommendations for the guidance of designers, manufacturers and contractors are set out.

Total war means all-out conservation. Architectural record. v.91, no.1. January 1942. p.40-48. Discusses conservation in connection with building construction.

What can we use? Pencil points. v.23, no.4. April 1942. p.195-197. Most of suggestions do not involve substitutes; they do concern alternate methods, many of them equal to or better than established practice, all designed to minimize use of scarce materials. Table deals with construction only.

Building materials.

Building - frames: Timbers and sizes. By A. J. Thomas. Melbourne, 1941. 45p. multigraphed. Australia. Council for scientific and industrial research. Pamphlet no.112. Gives information regarding use of Australian timbers for construction of framework of buildings and most suitable sizes for various members of such structures.

Buildings from the earth. By J. R. Marks. New Zealand Journal of Agriculture. v.64, no.1. January 15, 1942. p.41-43. Dry cob. Wet cob. Sun-dried brick. Lasting qualities and cost.

Line as a building material. By A. Leander St. C. Byles. Jamaica agricultural society. Journal. v.45, no.10. October 1941. p.371-373.

New housing critical list issued. American builder. v.64, no.4. April 1942. p.90,92-101. Specifies all metal items on which priority assistance will be given for war housing "Defense Areas".

Building materials. (Cont'd.)

Pisé de terre. Jamaica agricultural society. Journal.
v.45, no.10. October 1941. p.369.

Strong plaster for paperless wallboard. By W. A. Cunningham.
Rock products. v.45, no.4. April 1942.
p.50-53. New process of gypsum manufacture involves
"cooking" raw gypsum in Epsom salts solution and then
filtering and washing plaster.

Chemistry, Technical

Chemurgic developments during 1941. Chemurgic digest.
v.1, no.2. January 31, 1942. p.1.

From ragweeds to riches. By G. F. Bateman. Western
farm life. v.44, no.4. February 15, 1942.
p.3, 10. Aims of the National farm chemurgic council.

Corrosion.

Corrosion of fencing materials attached to treated pine posts.
By G. H. Dunkelberg, and others. In the Fifty-fourth
annual report of the South Carolina experiment station.
Clemson, S. C., 1941. p.22-24.

Cotton gins and ginning.

Cotton ginned prior to December 13 in South Carolina: Crops of
1941 and 1940. In Year book of the Department of
agriculture of the state of South Carolina, 1940-1941.
Columbia, S. C., 1942. p.437-438.

Jones tells of losses by gin-cut cotton. In Year book of
the Department of agriculture, commerce and industries of
the state of South Carolina, 1939-1940. Columbia, S.C.,
1940. p.70-71

Cotton machinery.

Machinery for cotton production. By Wm. E. Meek.
Agricultural engineering. v.23, no.1. January
1942. p.9-11.

Dairy farm equipment.

Care of milk cans. Farm journal of British Guiana.
v.6, no.1. January 1, 1942. p.18.

Electric milkers replace farm labor. By W. A. Price.
Rural electrification exchange. v.5, no.1. First
Quarter, 1942. p.19.

Dairy farm equipment. (Cont'd.)

Floors, walls and ceilings for dairy plants. By L. C. Thomsen.
Milk plant monthly. v.30, no.12. December 1941.
p.23-27, 31. Materials for construction and their
repair.

Milking machines. Implement & tractor. v.57, no.7.
March 28, 1942. p.12-13.

O On the dairy farm. Mechanical milking saves labour and safeguards
quality. Thorough cleanliness is essential. By S. R.
Ballard. Agricultural gazette of New South Wales.
v.52, pt.10. October 1, 1941. p.525-526.

Dams.

Gravel-rock overfall structures. By Thurnan P. Powell.
Agricultural engineering. v.22, no.11. November
1941. p.384-385.

Stock water dams in the Northern Great Plains. In a conservation
program for your farm or ranch. Washington, U.S. Govt.
print. off., [date ?] folder. U.S. Soil conservation
service. Northern Great Plains region, Lincoln, Nebr.,
Conservation Folder No.8. Describes practices that help
conserve soil and moisture resources.

Dryers and drying.

New tunnel dryer for dew-retted tow. Febres & fabrics
journal. v.7, no.12. December 1941. p.4.

Electric lines.

Designed voltage regulation on REA rural circuits. By Bruce
O. Watkins. Electrical world. v.116, no.12.
September 20, 1941. p.882-884, 959. Effect of
impedances of multi-grounded neutral lines and of earth
resistivity--wire factors, demands, cumulative drops tabulated.

Electrical equipment.

Domestic electric appliances in 1941. Edison electric
institute bulletin. v.10, no.1. January 1942.
p.16, 36.

Electrical equipment for the grain industry. Grain & feed
review. v.31, no.5. January 1942. p.12, 14.
Part 3.

Electricity--Distribution.

Electric power in South Carolina. In Year Book of the
Department of agriculture of the state of South Carolina,
1940-1941. Columbia, S.C., 1942. P.247-252.

1940 census provides much information for use by electric industry.
By Merle Rainey. Edison Electric institute bulletin.
v.10, no.1. January 1942. p.21-24.

Electricity on the farm.

The all-electric greenhouse. By J. Roberts and S. E. Wadsworth.
Pullman, Wash., 1941. 22p. Washington. Agricultural
experiment station. Bulletin no.404.

Electrified granary thrills a couple of REA men. Rural
electrification news. v.7, no.6. February 1942,
p.30.

Food to win the war must come from electrified farms. Rural
electrification exchange. v.5, no.1. First quarter,
1942. p.6-7.

Rural electrification. In Year book of the Department of
agriculture, commerce and industries of the state of South
Carolina, 1939-1940. Columbia, S.C., 1940.
p.153-156.

Rural electrification. In Year book of the Department of
agriculture of the state of South Carolina, 1940-1941.
Columbia, S.C., 1942. p.252-257.

Erosion control.

Controlling eroding in farm drainageways. Agricultural engineer-
ing. v.23, no.4. April 1942. p.137-137.

Effect of mulching and methods of cultivation on run-off and
erosion from Muskingum silt loam. By H. L. Borst and
Russell Woodburn. Agricultural engineering. v.23,
no.1. January 1942. p.19-22, 24. Discussion
by Francis A. Post.

Evaporation.

Measurement of evaporation from land and water surfaces. By
C. W. Thornthwaite and Benjamin Holzman. Washington, D.C.,
Govt. print. off., 1942. 143p. U.S. Department of
agriculture. Technical bulletin no.817.

Farm layouts.

Planning the farmstead. By J. C. Wooley and D. B. Huff.
Columbia, Mo., 1942. 11p. Missouri. Agricultural
extension service. Circular no. 439.

Farm machinery and equipment.

Combine engines handy for many farm jobs. In What's new in
farm science. Part 1, annual report of the director.
Madison, Wis., 1941. p.53-54. Wisconsin. Agri-
cultural experiment station. Bulletin no. 453.

~~Converting a slip scraper into a one-man tractor scraper.~~ C. C.
By J. C. Wooley. Columbia, Mo., 1942. 4p.
Missouri. College of agriculture. Agricultural extension
service. Circular no. 460.

Efficiency of tillage methods in growing corn. In Investiga-
tions of agricultural problems. Columbia, Mo., 1941.
p.19-20. Missouri. Agricultural experiment station.
Bulletin no. 438.

Engineering outlook: V.- Agricultural machinery. Engineering.
v.153, no.3974. March 13, 1942. p.203-204.

Factors determining a power and equipment program. By R. D.
Barden. Market growers journal. v.69, no.9.
November 1, 1941. p.472-473.

Farm machinery goes to war. Washington, D.C., U.S. Govt.
print. off., BAE - Ext. flier no.4. 1942. 4p.

Farm shop tools and equipment. Montana Farmer. v.29,
no.11. February 1, 1942. p.9.

Getting the most out of farm machinery. By Martin Ronning.
Northwest farm equipment journal. v.56, no.4.
April 1942. p.25.

Harvesting and handling cultivated cranberries. By H.F.Bain,
H. F. Bergman and R. B. Wilcox. Washington, D.C., 1942.
24p. U.S. Department of agriculture. Farmers'
bulletin no. 1882. Illustrations.

A homemade castor bean thresher. By Henry P. Clay.
Agricultural engineering. v.23, no.4. April
1942. p.135.

How to use a hay hoist to save a man and team or truck.
By George W. Kable. Electricity on the farm.
v.15, no.4. April, 1942. p.9-10.

Farm machinery and equipment. (Cont'd.)

Mower repair and adjustment. By Mack M. Jones and Lloyd E. Hightower. Columbia, Mo., 1942. 16 p.
Missouri. College of agriculture. Agricultural extension service. Circular no. 449.

Profit by the war on waste. By C. E. Packer. Implement & tractor. v.57, no.1. January 3, 1942.
p.58-61. Part two: hand tools, their use and abuse.

Repairing the mowing machine. By B. A. Jennings and P. R. Hoff. Ithaca, N. Y., 1941. 48p. New York. State college of agriculture. Cornell extension bulletin no. 471.
Illustrations. Gives instruction on how to adjust and how to repair mowing machines so that they will do good work with least amount of trouble and minimum of draft. This material applies to both horse-drawn and tractor machines. Any difference in method or technique is mentioned.

Shelling castor beans. By H. A. Arnold and M. A. Sharp. Agricultural engineering. v.23, no.1. January 1942. p.11.

So you're planning to cross block! By J. L. Williams. Through the leaves. v.30, no.2. March 1942. p.18-20. Advantages: (1) Moisture is conserved. (2) Cuts down amount of labor required in thinning of crop by at least 25 per cent. (3) It produces better and more uniform stand. (4) It provides for more efficient use of hand labor.

Study of the newer hay-harvesting methods on Ohio farms. By F. L. Morison. Columbus, Ohio, 1942. 16p. Mimeographed. Ohio. Agricultural experiment station. Department of rural economics and rural sociology. Mineograph bulletin no.146.

Farm power.

Abdication of automobile brings new challenge to merchandisers. By P. H. Erbes, Jr. Printers' ink. v.198, no.4. January 23, 1942. p.17, 40-41. Interesting developments in business scene indicated; horse due for comeback.

Feed grinders and grinding.

Control cost of grinding. Farm and Ranch. v.60, no.10. October 1941. p.30.

Fence posts.

Tests fence posts. In Year book of the Department of agriculture of the state of South Carolina, 1940-1941. Columbia, S.C., 1942. p.131-132.

Fences, Electric

Using electric fences to conserve labor and material. Rural electrification exchange. v.5, no.1. First quarter 1942. p.16.

Fertilizer placement.

Principles of fertilizer application. By Firman E. Bear. C.S.T.A. review. no.32. March 1942. p.29-31.

Fertilizers.

Farmer's fertilizer handbook. By L.C. Wheeting and others. Pullman, Wash., 1942. 7p. Washington. Agricultural experiment station. Popular bulletin no.165.

Liquid Manure: Installations of sumps, by-passes and distributors. By G. A. Blake. New Zealand Journal of Agriculture. v.64, no.2. February 16, 1942. p.95-98.

Fire protection.

Rural fire prevention. By Henry Giese. Agricultural Engineering. v.23, no.4. April 1942. p.120-125. Summary: Large percentage of rural fires are result of few easily preventible causes. Nearly all of fire waste on farms is in connection with dwellings and barns. Much can be accomplished if flues and heating systems are in good shape and all hazardous roofs are protected by spark arresters on chimneys.

Flow of air.

Measuring air flow. Heating, piping and air conditioning. v.13, no.12. December 1941. p.740-743. Tests give factors and recommendations for proper use of new attachment for air velocity meters.

Flow of water.

Analyzing flow from multiple reservoirs by the Hardy Cross method. By J. F. Muir. Engineering News-Record. v.123, no.11. March 12, 1942. p.408-409. Method free of complex mathematical relations is developed for application of Hardy Cross method to determination of flow from multiple-reservoir system. Also described is actual application of method to three-reservoir problem, step-by-step procedure being illustrated.

Foods, Frozen

Fast freezing meats & poultry. By James J. Lacey, John B. Hayes, Charlotte C. Buslaff. Madison, Wis., 1942. 12p. Wisconsin. Agricultural extension service. Circular no. 328.

Freezing and storing of meat, poultry, and eggs. By A.W. Oliver. Corvallis, Oregon, 1941. 5p. mimeographed. Oregon state college. Federal cooperative extension service. Extension circular no. 373.

Nutritive value of quick-frozen foods. By Mary Nelle Graham. Fruit products journal. v. 21, no. 8. April 1942. p. 243-246, 254.

Preservation of fruits and vegetables by freezing. By C.L. Bedford and others. In Fifty-first annual report, Washington agricultural experiment station, 1941. Pullman, Wash., 1941. p. 80. Study has been initiated to determine suitability for freezing of varieties of commercial importance and of new varieties showing promise for various commercial uses. Study also will include method of preparation for freezing, preparation of various frozen dessert products, and vitamin values.

Fuels.

Fuel wood used in the United States, 1630-1930. By R.V. Reynolds and Albert H. Pierson. Washington, U.S. Govt. print. off., 1942. 20p. U.S. Department of agriculture. Circular no. 641.

Post-war national fuel policy. By John D. Troup. Engineer- ing. v. 151, no. 3918.

Grain, Cost of handling.

Cost of handling grain. Grain & feed journals consolidated. v. 87, no. 7. October 8, 1941. p. 295-296.

Heating.

Heating and lighting of air raid shelters. Electrical times. v. 100, no. 2603. September 11, 1941. p. 157.

Warm air heating for defense housing. Architectural record. v. 91, no. 4. April 1942. p. 67-70. (1) Types of systems. (2) Gravity warm air system design. (3) Gravity warm air system design. (4) Construction details gravity & forced warm air.

Heating. (Cont'd.)

WFB issued wartime rules for house heating. Architectural record. v.91, no.4. April 1942. p.63, 66. Charts show heat losses for five floor areas in four-degree-day-design temperature zones.

Houses.

Bibliography on housing for low-income families. By Elisabeth Coit. Architectural record. v.91, no.4. April 1942. p.84.

Family expenditures for housing and household operation. Five regions. By Hazel Kyrk and others. Consumer purchases study. Farm series. Washington, U.S. Govt. print. off., 1941. 20lp. U.S. Department of agriculture in cooperation with the Works projects administration. Miscellaneous publication no. 457.

Longer life to your house. Consumers' guide. v.8, no.6. January 15, 1942. p.3. House repair.

The new federal set-up for housing. Federal home loan bank review. v.8, no.6. March 1942. p.186-187.

Rural housing. In Year book of the Department of agriculture, commerce and industries of the state of South Carolina, 1939-1940. Columbia, S.C., 1940. p.305-310.

Hydraulics.

Energy loss at the base of a free overfall. By Walter L. Moore. American society of civil engineers. Proceedings. v.67, no.9. November 1941. p.1697-1714. Experimental studies were made of free overfall with view to obtaining information that would be of value to designers of hydraulic structures. Detailed laboratory measurements showed that energy losses at base of fall were of appreciable magnitude and hence must be considered in hydraulic design. These measured energy losses were applied in development of rational formula for calculating height of jump below fall. Limited information was also obtained on length characteristics of jump and on effect of submergence of jump on energy dissipation. Presence of standing water behind fall is explained, and its height is calculated by application of momentum equation.

Engineer's approach to fluid mechanics. By Arthur Ellwood. Engineering news record. v.127, no.15. October 9, 1941. p.505-509. Vast strides forward have been made in development and application of mathematical analysis for solution of practical hydraulic problems. Discussion reviews some new concepts and points to significance

Hydraulics. (Cont'd.)

of various formulas of modern school of fluid mechanics.
Illustrative example shows application of these formulas
to practical problems of engineers.

Hydraulic studies of conservation structures at the outdoor
hydraulic laboratory, Spartanburg, S.C. Washington,
D.C., U.S. Dept. of agriculture, Soil conservation service,
1942. 18p.

Progress of society's hydraulic research. Eighth annual re-
port of Special Committee. Civil engineering.
v.12, no.2. February 1942. p.113-114. Illustra-
tions.

Income, Farm

Distribution of farm income by size: A selected bibliography.
Compiled by Louise O. Bercaw and Helen E. Hennefrund...
Washington, D.C., 1942. 103p. Mimeographed. U.S.
Dept. of agriculture. Bureau of agricultural economics.
Agricultural economics bibliography no.96.

Farm income in 1941. Agricultural situation. v.26,
no.2. February 1942. p.23-24. Table gives
cash farm income in the United States, by commodities,
calendar years 1939-41.

Insulation.

Cottonseed hulls for insulation. By J. W. Sinonds.
Southern agriculturist. v.72, no.1. January 1942.
p.30. When used 3 5/8 inches deep on ceiling fuel con-
sumption was reduced on average of from 16 to 25 per cent.
In construction using light wood frame covered on inside with
sheet metal fuel saving was as high as 37 per cent with ceiling
insulated and over 50 per cent with both ceiling and walls
insulated.

Refrigeration data. Commercial car journal. v.63, no.2.
April 1942. p.110. Thermal conductivity of insulat-
ing materials.

Irrigation.

Irrigacion en Mexico. By Carlos Luquin. Irrigacion en
Mexico. v.23, no.6. November-December 1941.
p.407-425. Irrigation in Mexico.

Irrigated permanent pastures. By I. Aronovitch. Agri-
cultural bulletin, Palestine. July-September 1941.
p.215-219.

Irrigation. (Cont'd.)

Orchard irrigation. By E. L. Overholser and others.
In Washington. Agricultural experiment station.
Bulletin no. 410. Pullman, Wash., 1941. p. 68.

Irrigation channels.

Effects of channel shape on losses in a canal bend. By
C.H. Yen and J.W. Howe. Civil engineering. v. 12,
no. 1. January 1942. p. 28-29.

Lining of watercourses. By Mr. G.R. Sawhney. Proceedings
of the Punjab engineering congress. Lahore, Kapur art
printing works, 1940. p. 275-280h. Paper no. 240.

Measuring water in irrigation channels. By R. L. Parshall.
Washington, D.C., revised October 1941. 30p. U.S.
Department of agriculture, Farmers' bulletin no. 1683. Bulle-
tin describes different practical water-measuring devices
suitable for use in open irrigation channels, principally as
adapted to relatively small flows in laterals and turn-out
deliveries to individual water users.

Remodelling distributaries and distribution of water to areas
irrigated by colony canals. By A. Jesson. Pro-
ceedings of the Punjab engineering congress. Lahore,
Kapur art printing works, 1940. p. 1-43cc. Paper
no. 230.

Laboratories.

Directory of commercial testing and college research laboratories.
Washington, U.S. Govt. print. off., 1942. 63p. U.S.
Department of commerce. National bureau of standards. Mis-
cellaneous publication M171 (Superseding Miscellaneous publi-
cation M125)

Milk cooling.

Cooling milk on the farm. By Theodore G. Anderson. Milk
plant monthly. v. 30, no. 10. October 1941.
p. 70-72, 74, 76. Supplies additional information, deal-
ing primarily with temperatures at different levels in full
can of milk, growth of microorganisms in relation to such dif-
ferences, and efficiency of various methods in preventing
growth of bacteria.

Farm milk cooling important in war-time program. By Richard
Markley, Jr. Refrigerating Engineering. v. 43, no. 3.
March 1942. p. 154-146.

Miscellaneous.

- Care of records in a national emergency. Washington, U.S.
Govt. print. off., 1941. 36p. National Archives.
Bulletin no. 3.
- Emergency program of the TVA. By Theodore B. Parker.
Engineering news-record. v. 127, no. 25. December
18, 1941. p. 866-870.
- Equipment in the linelight. Part 2. Chemical & Metallurgical
engineering. v. 49, no. 1. January 1942.
p. 96-99. New developments which were found by Chem. &
Met. editors at chemical show in December in equipment and
construction materials for process plants.
- Minutes of proceedings of the Punjab engineering congress.
Lahore, Kapur art printing works, 1940. 280 (h) p.
- Mobilization of science in national defense. By Dr. Frank B.
Jewett. Science. v. 95, no. 2462. March 6,
1942. p. 235-241.
- National resources development report for 1942. Washington,
D.C., U.S. Govt. print. off., 1942. 227 p.
- Notes on war production board setup and personnel. ASTM
Bulletin. No. 115. March 1942. p. 59-62.
Divisions of materials, industry operations, production and
purchases--Bureau of industrial conservation, iron and steel
branch, National emergency steel specifications, industry
branches.
- Report on progress of the WPA program, June 30, 1941. Washington,
D.C., Work projects administration, 1941. 144p.
- Some work of agricultural chemists and engineers. By W.W.
Skinner. Farmers digest. v. 5, no. 9. January
1942. p. 61-64.

Motor fuels.

- Some of substitute motor fuels on the continent. By W. Lands-
berg. Engineering. v. 153, no. 3969. February
6, 1942. p. 114-115.

Motor vehicles.

- 1942 fleet operators' reference annual. Commercial car
journal. v. 63, no. 2. April 1942. p. 20-250.
Specifications and statistics.

Pest control.

Study of some mixed fumigants suitable for the control of stored products insects. By M. Shafik. Cairo, Govt. press, Bullaq, 1938. 160p.

Poultry houses and equipment.

Brooding and pullet management. By W.E. Newlon and M.W. Duster. Revised edition. Berkeley, Calif., 1941. 24p. California. Agricultural extension service. Circular no.28.

Enrolled for the duration. By G.T. Klein. New England homestead. v.115, no.2. Januart 24, 1942. p.5, 12. Summer laying shelter cheapest way of getting some added housing space on commercial poultry farm.

Portable brooder houses for Michigan. By C.H. Jefferson and J.A. Davidson. East Lansing, Mich., 1942. 10p. Michigan state college. Extension division. Extension bulletin no.236.

Poultry furniture. By W.G. Ward. Successful farming. v.40, no.3. March 1942. p.20. Sanitary runway. Green feed rack. Range feeder. Hopper for small chicks. Watering stand. Automatic waterer. Feed hopper for laying hens.

Colony brooder house. By H.L. Kempster. Columbia, Mo., March 1942. 4p. Missouri. Agricultural extension service.. Circular no.453. Illustrations. Advantages of house of this shape are: (1) It affords abundance of head room with comparatively low side walls; (2) Weight of house is evenly distributed on its runners; (3) It may be more easily moved among trees.

Combination brooder and range shelter for the family poultry flock. By E.T. Itschner, M.W. Clark, and C.E. Rohde. Columbia, Mo., March 1942. 8p. Missouri. Agricultural extension service. Circular no. 446. Illustrations. Presents plans for equipment that solves problem of raising small brood of chicks.

Power development.

Electric light and power industry in the United States, year 1941. New York, Edison electric institute, 1942. 40p. Statistical bulletin no.9.

Electric power by Public service commission. In Year book of the Department of agriculture, commerce and industries of the state of South Carolina, 1939-1940. Columbia, S.C., 1940. p.149-153.

Rainfall and runoff.

Runoff from agricultural watersheds. By Glenn M. Horner and
Loy M. Naffziger. In Washington. Agricultural experi-
ment station. Bulletin no. 410. Pullman, Wash., 1941.
p. 124. Studies were started to furnish information for
design of terraces, farm stock ponds, channel improvements,
and in preparation of flood control reports.

Reclamation.

Reclamation of alkali soil. By Carl A. Larson. In
Washington. Agricultural experiment station. Bulletin no. 410.
Pullman, Wash., 1941. p. 111-112.

Water saved - money saved. By Jack W. Rodner. Reclamation
era. v. 32, no. 3. March 1942. p. 54-55.

Refrigerants.

Heat transfer of evaporating Freon. By C. M. Ashley.
Refrigerating engineering. v. 42, no. 2. February
1942. p. 89-95. Tests were run to determine heat
transfer of evaporating Freon-12, in a 0.575 in. I. D. copper
tube. Load, flash gas, suction temperature and excess liquid
were varied. Analysis of results indicates that Freon-12
transfer may be correlated with mean load on evaporator (in-
cluding flash gas). Transfer values found vary widely from
accepted values. It is believed that variables of diameter,
length of circuit, and method of circuiting may be included
to express general relationship. Data on refrigerant pressure
drops are also summarized.

Refrigerating machinery.

A history of the centrifugal refrigeration machine. By Walter
A. Grant. Refrigerating engineering. v. 43, no. 2.
February 1942. p. 82-86, 120, 122. First practical
machine was built only twenty years ago, and that even ten
years ago this invention was not considered seriously. In
final section on applications, states that although prevalent
idea is that centrifugal refrigeration is used chiefly for
comfort cooling, machine is well suited to production of very
low temperatures.

Refrigeration.

Allies of refrigeration in food preservation. By Arthur W.
Ewell. Refrigerating engineering. v. 43, no. 3.
p. 159-162.

Refrigeration: (Cont'd.)

Application of heat exchangers. By K.M. Newcum. Re-
frigerating engineering. v.43, no.2. February
1942. p.77-79. Points out error often made in
considering heat exchanger a "cure-all." Emphasizes fact
that it cannot be expected to make poorly designed refriger-
ating system do work expected of one properly sized and
designed.

Automatic capacity control. Refrigerating engineering.
v.43, no.3. March 1942. Refrigerating engineer-
ing application data no.32. Part 1. Capacity
reduction and the theory of control.

Comparison of wet and dry cooling of dressed poultry. By
J. Roberts and E. I. Robertson. Pullman, Wash., 1941.
15p. Washington. Agricultural experiment station.
Bulletin no.403.

Factors affecting temperature changes in dressed poultry during
refrigeration. By I.L. Williams and E.M. Funk.
Columbia, Mo., 1941. 39p. Missouri. Agricultural
experiment station. Research bulletin no.334.

Refrigeration for drinking water cooling systems. Refrigerat-
ing engineering. v.43, no.2. February 1942.
8p. Refrigerating engineering application data no.31.

Refrigerator cars.

New fabrication methods for refrigerator cars. By Mandus E.
Bridston. Refrigerating engineering. v.43, no.3.
March 1942. p.143-144.

Refrigerator lockers.

Food lockers in demand. By Joe Crosby. California
cultivator. v.89, no.3. February 7, 1942. p.80.

A new type of frozen foods locker. By F.W. Knowles. Re-
frigerating Engineering. v.43, no.3. March 1942.
p.157-158, 179. K-D Streamlined Locker.

Refrigerators.

Proposed A.S.R.E. standard methods of rating and testing evapora-
tive condensers. By the joint committee on Rating com-
mercial refrigerating equipment. Refrigerating engineer-
ing. v.42, no.5. November 1941. 20p.
A.S.R.E. Circular no.20.

Research.

Progress of electrical research. Engineering. v.151,
no.3918. p.137. Twentieth annual report of the
British electrical and allied industries research associa-
tion for year ended September 30, 1940. contains an account
of full year's operation under war conditions.

Rubber.

Rubber from rabbit brush (*Chrysothamnus nauseosus*) By S.B.
Doten. Carson City, Nevada, 1942. 22p.
Nevada. Agricultural experiment station. Bulletin no.157.

Rubber from the desert. By A.B. West. Reclamation era.
v.32, no.3. March 1942. p.64-65. Illustra-
tions. Table shows Guayule rubber production data
based on experience of the Intercontinental Rubber Co.,
Salinas, Calif., using an extraction unit of 10,000 tons
of dry shrub per year.

Silt.

Silt load of the Saint John river and its tributaries - A pre-
liminary report. By R.C. Parent. C.S.T.A. review.
no.32. March 1942. p.19-22, 27. Some idea
of amount of annual loss and how to prevent it are discussed.

Soil sterilization.

Constant-current resistance soil pasteurizer. By Santiago R.
Cruz. Agricultural engineering. v.23, no.4.
April 1942. p.129-130,133.

An insulated electric soil pasteurizer. By Andrew Hustrulid.
Agricultural engineering. v.23, no.4. April 1942.
p.127-128. Raising temperature and holding it for short
time is considered to be most effective means for the control
of such plant enemies as bacteria, fungi, worms, insect life,
and weed seeds.

Soldering.

Electric soldering. By S. F. Philpott. Electrical
review. v.129, no.3343. December 19, 1941.
p.691-693. Survey of methods.

Rope work power transmission soldering. Ithaca, N. Y., 1941.
52p. Cornell university. Agricultural extension service.
Cornell junior extension bulletin no.60.

Specifications.

Specification standards for government work. By Harold R.
Sleeper. Architectural record. v.91, no.1.
January 1942. p.61-64. Div. 1, Masonry materials.
Div. 2, Stone, slate & cast stone. Div. 3, Waterproofing &
dampproofing.

Storage of farm produce.

Effect of farm storage on interior egg quality. By R.J.
Evans and J.S. Carver. In Washington. Agricultural
experiment station. Bulletin no.410. Pullman, Wash.,
1941. p.93-94.
Fruit storage responses. By E.L. Overholser, and others.
In Fifty-first annual report, Washington agricultural experi-
ment station, 1941. Pullman, Wash., 1941. p.75-76.
Two designs for root-cellars. House and garden. v.80,
no.3. September 1941. p.24-25.

Surveying.

Home equipment to lay out guide lines for contour farming.
By Marion Clark and Ralph Ricketts. Columbia, Mo.,
1942. 8p. Missouri. College of agriculture.
Agricultural extension service. Circular no.459.

Swine houses and equipment.

Builders put hogs on concrete for bigger pork profits. Ameri-
can builder. v.64, no.4. April 1942.
p.82-83. How to plan and build permanent sanitary hog
house and feeding floor.
Good housing for pigs is a savings bank for breeding and feeding.
New Zealand Journal of Agriculture. v.64, no.1.
January 15, 1942. p.25-27.
Pig and lamb brooding. In Washington. Agricultural experi-
ment station. Bulletin no.410. Pullman, Wash., 1941.
p.10-11.
Shelter for pigs. By A. T. Jamaica agricultural
society Journal. v.45, no.10. October 1941.
p.385.

Terracing.

Distribution of corn yields on farm terraces on the Shelby soil.
By A.W. Zingg and D.M. Whitt. Agricultural engineering.
v.23, no.4. April 1942. p.126, 128.

Tires.

Ban rubber on new tractors--May 1. Implement & tractor.
v.57, no.7. March 28, 1942. p.10-11.
Advices from University of Nebraska seem to indicate that
there will be no new tests for models that have been
through Nebraska tractor tests on rubber tires even though
changeover to steel wheels may affect certain of findings.
However, definite decision on question of retesting all
tractors that will come from production lines on steel
wheels will be made shortly.

Tractors.

Nebraska tractor tests, 1940-1941. Lincoln, Neb., 1942.
52p. Nebraska. Agricultural experiment station.
Bulletin no.338.

Preventive service for tractors. Implement & tractor.
v.57, no.8. April 11, 1942. p.27-28.
Frequent, systematic check-ups tend to eliminate serious
and expensive repair work later on.

Simplified generator service for tractors. By C.E. Packer.
Implement & tractor. v.57, no.8. April 11, 1942.
Motoring test cited as best method of detecting trouble in
faulty equipment.

Ventilation.

Ventilation of poultry laying houses. By F.L. Fairbanks and
A.M. Goodman. Ithaca, New York, Jan.1935. (Revised
Nov.1941). 27p. New York. State college of
agriculture. Cornell extension bulletin no.315.
Illustrations.

Walls.

Soil-cement blocks for walls of university research laboratory.
By W.C. McNown. Engineering news-record. v.127,
no.23. December 4, 1941. p.812-813.
Building blocks made of sandy loam mixed with 12 per cent
by weight of cement comprise exterior walls of new engineer-
ing research building under construction at university of
Kansas. Water content of mix is about 10 per cent.
Compressive strengths of over 1,000 psi. are readily main-
tained. Good resistance to weathering is indicated by test.
Insulating value is low, so blocks are being laid up in
double wall containing air space.

Waste products.

Farm scrap turned to war steel. Wisconsin agriculturist and
farmer. v.69, no.1. January 10, 1942. p5.

Waste products. (Cont'd.)

New products for old. By L.A. Rogers. Hoard's dairy-
man. v.86, no.22. November 25, 1941.
p.679, 690.

Water heaters.

Electric water warmers for poultry. By I.P. Blauser.
Rural electrification exchange. v.5, no.1. First
quarter, 1942. p.10, 17.

Water supply, Rural

Running water for all farms. Implement & tractor.
v.57, no.7. March 28, 1942. p.18-20. Tables
give approximate amount of water needed for various purposes.

Welding.

Learning to arc weld. By Arthur Madson. Implement &
tractor. v.56, no.25. December 6, 1941.
p.52, 54-55. Lesson 3. Running straight bead not less
than 12 inches in length, and using weaving or oscillating
motion of electrodes. Gives tabulation of resultant weld
characteristics obtained when proper welding procedure is
used except as indicated. This tabulation applies only to
welding of mild rolled steel in flat position with bare or
washed electrodes.

Learning to arc weld. By Arthur Madson. Implement &
tractor. v.57, no.1. January 3, 1942.
p.62, 64, 66, 68. Part 4.

Learning to arc weld. Implement & tractor. v.57, no.8.
April 11, 1942. p.32, 36, 38. Lesson 7--Verticle
welding of lap, butt, tee (or fillet) welds.

Wells.

Artesian well survey. In Year book of the department of agri-
culture of the state of South Carolina, 1940-1941. Col-
umbia, S.C., 1942. p.163-189.

Good wells are an excellent farm investment. By Thomas E.
Yandre. Florida grower. v.49, no.11. Febru-
ary 1941. p.5, 9. Real value of well depends on
driller's ability; quality of materials, and choice of
proper size.

Wells. (Cont'd.)

Water levels and artesian pressure in observation wells in the United States in 1940. Pt. 2. Southeastern states. By O.E. Meinzer and others. Washington, D.C., U.S. Govt. print. off., 1942. 120p. U.S. Geological survey. Water-supply paper no. 907.

Water levels and artesian pressure in observation wells in the United States in 1940. Pt. 5. Northwestern states. By O.E. Meinzer, L.K. Wenzel, et al. Washington, D.C., U.S. Govt. print. off., 1941. 184p. U.S. Department of the interior. Geological survey. Water-supply paper no. 910.

Wire.

Physical and mechanical properties of steel wire. . . . In report of the research and extension activities of the engineering schools and departments for the sessions of 1940-1941. Lafayette, Ind., 1941. p.23-24. Indiana. Purdue university. Engineering experiment station. Research series no. 83. Purpose: To study physical and mechanical properties of different grades and sizes of electrical steel wire conductors under both continuous and sustained loading.

Wood.

Cord wood weights. Farm implement news. v.63, no.1. January 8, 1942. p.40.

Creosil. Journal of the Jamaica agricultural society. v.45, no.11. November 1941. p.425, 427. An economical and effective wood-preservative sold by the Jamaica agricultural society.

Lumber industry working at top speed. By Charles Slifko. Domestic commerce. v.29, no.10. March 5, 1942. p.18-19.

The preservative treatment of wood with pentachlorophenol. By Dale Chapman. Edison electric institute bulletin. v.10, no.2. February 1942. p.57-58. Discusses Results of service tests to date; Commercial use to date; Pressure treatment with pentachlorophenol solutions; Non-pressure treatments with pentachlorophenol; Pentachlorophenol and present war conditions.

Treated lumber meets today's requirements. American lumberman. No.3219. December 13, 1941. p.38-40.

Treatment of timber in a drying-kiln. Engineering. v.152, no.3961. December 12, 1941. p.476.

Urea treatment of lumber. By J.F.T. Berliner. Mechanical engineering. v.64, no.3. March 1942. P.181-186.